



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,676	09/15/2003	Kuo-Liang Lee	LEEK3004/EM	9147
23364	7590	06/29/2004	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			VU, PHUONG T	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/661,676	Applicant(s) LEE, KUO-LIANG LK	
	Examiner Phuong T. Vu	Art Unit 2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Bishop et al. (US 6,535,382 B2). Regarding claim 1, the reference discloses an electronic apparatus 14a with natural convection structure comprising a casing structure 106, said casing structure having a first hole 120 passing through said casing structure from a top surface to a bottom surface thereof, a first printed circuit board (provided in 26) disposed adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole and at least a supporting device 124 disposed on said bottom surface of said casing structure.

3. Claims 1, 3, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hutchinson et al. (US 6,430,044 B2). Regarding claim 1, the reference discloses an electronic apparatus with natural convection structure comprising a casing structure 100, said casing structure having a first hole 134 passing through said casing structure from a top surface to a bottom surface thereof, a first printed circuit board 107 disposed

Art Unit: 2841

adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole and at least a supporting device 150 disposed on said bottom surface of said casing structure.

Regarding claim 3, the apparatus further comprises a second printed circuit board disposed adjacent to the other side of said first hole in the casing structure and substantially parallel to said other side of said first hole.

Regarding claim 8, said casing structure and said first hole are integrally formed.

4. Claims 1, 8, 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Lanclos (US 6,144,556). Regarding claim 1, the reference discloses an electronic apparatus with natural convection structure comprising a casing structure 50, said casing structure having a first hole 111 passing through said casing structure from a top surface to a bottom surface thereof, a first printed circuit board 115 disposed adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole and at least a supporting device 200 disposed on said bottom surface of said casing structure.

Regarding claim 8, said casing structure and said first hole are integrally formed.

Regarding claim 10, the apparatus comprises an input device, said input device is one selected from a group consisting of a plug, a socket, and a power cord.

Regarding claim 11, the apparatus comprises an output device, said output device selected from a group consisting of a plug, a socket, and a power cord.

5. Claims 1, 3-4, 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin et al. (US 6,650,539B1). Regarding claim 1, the reference discloses an electronic

Art Unit: 2841

apparatus with natural convection structure comprising a casing structure (comprising 15, 11, 12, 13), said casing structure having a first hole passing through said casing structure from a top surface to a bottom surface thereof, a first printed circuit board (inherently provided in 30) disposed adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole and at least a supporting device 20 disposed on said bottom surface of said casing structure.

Regarding claim 3, the apparatus further comprises a second printed circuit board disposed adjacent to the other side of said first hole in the casing structure and substantially parallel to said other side of said first hole.

Regarding claim 4, the apparatus further comprises a second hole passing through the relative sides of said casing structure, communicating with said first hole, and being vertical to said first hole and substantially parallel to said first printed circuit board.

Regarding claim 8, said casing structure and said first hole are integrally formed.

Regarding claim 9, the vertical and horizontal cross-sections of said first hole are rectangular.

Regarding claim 10, the apparatus comprises an input device, said input device is one selected from a group consisting of a plug, a socket, and a power cord.

Regarding claim 11, the apparatus comprises an output device, said output device selected from a group consisting of a plug, a socket, and a power cord.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes et al. (US 6,459,577 B1). Regarding claim 1, the reference discloses an electronic apparatus 10 with natural convection structure comprising a casing structure 12, said casing structure having a first hole 28 passing through said casing structure from a top surface to a bottom surface thereof and at least a supporting device disposed on said bottom surface of said casing structure. The reference does not show a first printed circuit board disposed adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole, however, the reference teaches that the apparatus is a computer which has a hard drive, microprocessor and heat sink. The apparatus necessarily would have a bus structure and at least a printed circuit board upon which the microprocessor, bus, and other components would be mounted. The printed circuit board would be positioned adjacent one side of said first hole. It would have been obvious to those skilled in the art at the time the invention was made to position the printed circuit board substantially parallel to said side of said first hole as this direction would best accommodate the printed circuit board and components mounted on the printed circuit board and would accommodate the largest possible printed circuit board in the housing.

Regarding claim 7, the distances from said first hole to the edges of said casing structure are substantially equal.

Regarding claim 9, when one considers the hole adjacent hole 28 to be the first hole, the reference shows that the vertical and horizontal cross-sections of said first hole have a rounded rectangular shape. Furthermore, it has been held that matters relating to only shape, which have no impact upon mechanical function, cannot be relied upon to patentably distinguish the claimed invention from the prior art. In re Seid , 161 F.2d 229, 73 USPQ 431 (CCPA 1947).

8. Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson et al. (US 6,430,044 B2). Regarding claim 5, the reference is silent about the height of the supporting device. However, it appears that the height is substantially 3mm as claimed. Furthermore regarding this height, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Regarding claim 6, the reference is silent the specific width that the supporting device is extended outwardly from the sidewalls of said casing structure. However, it appears that the width is substantially at least 3mm. Furthermore regarding this width, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

9. Claims 2, 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanclos (US 6,144,556). Regarding claim 2, the reference teaches that the electronic apparatus housing is for a power amplifier. It would have been obvious to those skilled in the art at the time the invention was made that the housing may be used for any electronic device requiring cooling such as an external power supply for any computer system.

Regarding claim 5, the reference is silent about the height of the supporting device. However, it appears that the height is substantially 3mm as claimed. Furthermore regarding this height, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Regarding claim 6, the reference is silent the specific width that the supporting device is extended outwardly from the sidewalls of said casing structure. However, it appears that the width is substantially at least 3mm. Furthermore regarding this width, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

10. Claims 2, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US 6,650,539B1). Regarding claim 2, the reference teaches that the electronic apparatus housing is for a backup power supply. It would have been obvious to those skilled in the art at the time the invention was made that the housing may be

Art Unit: 2841

used for any electronic device requiring cooling such as an external power supply for a any computer system.

Regarding claim 5, the reference is silent about the height of the supporting device. However, it appears that the height is substantially 3mm as claimed. Furthermore regarding this height, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Regarding claim 6, the reference is silent the specific width that the supporting device is extended outwardly from the sidewalls of said casing structure. However, it appears that the width is substantially at least 3mm. Furthermore regarding this width, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Vu whose telephone number is (571) 272-2111. The examiner can normally be reached on Mon. & Tues., 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David S. Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2841

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PTVu

Patent Examiner

